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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/076,925

02/14/2002

Brian C. Banister

LSI-005-CIP

3966

7590

04/17/2006

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EXAMINER

GHULAMALI, QUTBUDDIN

ART UNIT

PAPER NUMBER

2611

DATE MAILED: 04/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/076,925

Applicant(s)

BANISTER, BRIAN C.

Examiner

Qutub Ghulamali

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-11 and 14-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-11 and 14-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. This Office Action is responsive to applicant's Remarks/Amendments filed on 03/03/2006.

Response to Submission After Final

2. Applicant's amendment filed March 03, 2006 (see pages 9-10) in response to the rejection of claims 1-4, 11-14, 20-31 has been fully considered. However, they do not place the claims in condition for allowance. However, the Finality of Office Action dated November 28, 2005, is hereby withdrawn in view of new ground of rejection. Applicant's first submission after final filed on 03/03/2006 has been entered.

Claim Objections

3. Claims 1, 15 and 19 objected to because of the following informalities:

Claim 1 fails to describe the variables utilized the equations i-iii. Appropriate correction is required.

Claims 1, 15 and 19, shouldn't "comprising the acts...", be "comprising the steps...", wherever it appears in the claims.

Claim 15, step d-ii, "and" after "second state;" must be deleted.

Claim 19, step d-iii, "iv", after "then;" must be deleted.

Claim 19, step d-iv, "and" after "set of equations;" must be deleted.

Claim 19, step d-ii, recites the limitation "a second time" in line 2, it must be replaced with "the second".

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claims 15 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites the limitation "the second time" in line 2, in step d-ii. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites "wherein the communication **system comprises**", is not consistent with the method of claim wherein method steps are claimed "comprising the steps of".

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-4, 6-11, 14-23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. With reference to claims 1, 15 and 19, the claims when taken as a whole is directed to an abstract idea, "recite steps using mathematical equations for performing an algorithmic mathematical computation of

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weight vectors and repeating steps a) through e) in an endless loop". The "Interim Guidelines for examination of Patent Applications for Patent subject matter Eligibility" provides that for claims including such excluded matter to be eligible, the claim must be for a practical application of the abstract idea. The claim fails to provide a practical application of the abstract idea because the claimed invention does not transform an article or physical object to a different state or thing nor the claimed invention otherwise produces a useful, concrete and tangible result. The claim only performs mathematical computation in an endless loop and no final result is achieved. Hence it is concluded that the claims are non-statutory.

Claims 2-4, 6-11, 14, 16-18 and 20-23 fail to cure the deficiency noted above in the base claims, they are likewise rejected.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patents:

Youssefmir et al (USP 6,141,567) discloses apparatus and method for beamforming in a changing interference environment.

Wallace et al (USP 6,473,467) shows channel state information used by a communications system between transmitter and receiver units.

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Non-Patent Literature:

Gerlach et al "Adaptive transmitting Antenna methods for Multipath Environments",
IEEE Signal Processing Publication, 1994, pages 425-429.

Liang et al, "Forward Link Antenna Diversity Using Feedback for Indoor Communication
Systems", IEEE, Information Systems Laboratory, Stanford University, 1995, pages
1753-1755.

8. Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-
3014. The examiner can normally be reached on Monday-Friday, 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone
number for the organization where this application or proceeding is assigned is 571-
273-8300.

Information regarding the status of an application may be obtained from the Patent
Application Information Retrieval (PAIR) system. Status information for published applications
may be obtained from either Private PAIR or Public PAIR. Status information for unpublished
applications is available through Private PAIR only. For more information about the PAIR
system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private
PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QG.
April 5, 2006.


JEAN B. CORRIELLUS
PRIMARY EXAMINER

4-12-06